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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Yasuaki Namura

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03/21/2005

PEARNE & GORDON LLP

1801 EAST 9TH STREET

SUITE 1200

CLEVELAND, OH 44114-3108

EXAMINER

TRAN, KHANH C

ART UNIT

PAPER NUMBER

2631

DATE MAILED: 03/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/535,303

Applicant(s)

NAMURA, YASUAKI

Examiner

Khanh Tran

Art Unit

2631

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on ____.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1, 3-11, 13-25 and 29-30 is/are allowed.
- 6) ☒ Claim(s) 2, 12 and 28 is/are rejected.
- 7) ☒ Claim(s) 26 and 27 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 March 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

1. The Amendment filed on 07/28/2005 has been entered. Claims 1-30 are pending in this Office action.

Response to Arguments

2. Applicant's arguments, see pages 20-21 of the Arguments/Remarks, filed 07/28/2005, with respect to claims 1, 11, 22 and 25 have been fully considered and are persuasive. The rejection of claims 1, 11, 22 and 25 has been withdrawn.

3. Because Applicants do not respond to the rejection of claims 2, 12 and 28, the rejection of claims 2, 12 and 22 is still maintained in this Office action.

4. Below is the rejection of claims 2, 12 and 22 recited again.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

Claims 2, 12 and 28 are rejected under 35 U.S.C. 102(a) as being anticipated by admitted prior art.

Regarding claims 2 and 12, admitted prior art in Applicant's specification, see figure 12 of the drawings, figure 12 illustrates a conventional multi-band transceiver including a receiving section, a transmitting section, and a band-switching signal 153. The receiving section includes a quadrature demodulator 1208 a reception signal into quadrature components. The quadrature demodulator 1208 includes a pair of mixers 109 and 110, a local oscillator 111 for producing a local oscillation signal, a phase shifting means $\Pi/2$ for shifting phase of the local oscillation signal. Based upon the band switching signal 153, the phase shifting means $\Pi/2$ supplies phase shifted local oscillation signals 155 156 to both mixers 109 110.

The transmitting section includes a quadrature modulator 1218 for converting a quadrature baseband signal 657 and 658 into a transmission IF signal. The quadrature modulator 1218 includes mixers 609 610 for converting a quadrature baseband signal 657 and 658 into a transmission IF signal, a local oscillator 611 for producing a local oscillation signal, a phase shifting means $\Pi/2$ for shifting phase of the local oscillation signal. Based upon the band switching signal 153, phase shifting means $\Pi/2$ supplies phase shifted local oscillation signals 655 656 to both mixers 609 610.

Regarding claim 28, referring to figure 12, phase shifting means $\Pi/2$ inherently delaying the phase of one of the local oscillation signal by $\Pi/2$ and advancing the phase of the other local oscillation signal by $\Pi/2$ as claimed in the pending patent application in response to the band switching signal.

Allowable Subject Matter

5. Claims 1 and 23-25 are allowed.

Regarding claim 1, claim is allowed over the prior art of record after Applicant adds the critical limitation "phase shifting means for inputting said band switching signal and for shifting a phase of said local oscillation signal". The closes prior art, Ito et al. (US 5,852,784) disclosing multiband mobile unit communication apparatus, either singularly or in combination, fail to anticipate or render the above underlined limitations obvious.

6. Claims 26-27 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

7. Claims 3-6 and 13-16 are allowed.

Regarding claims 3 and 13, claims are allowed over the prior art of record because the cited references taken individually or in combination fail to particularly disclose a multiband data communication apparatus comprising "a quadrature modulating means as set forth in the claim" and "a quadrature demodulating means as set forth in the claim" and "phase shifting means for shifting a phase of said local oscillation signal based upon said band switching signal to thereby supply the phase-shifted local oscillation signal ...". The closes prior art, Ito et al. (US 5,852,784)

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disclosing multiband mobile unit communication apparatus, either singularly or in combination, fail to anticipate or render the above underlined limitations obvious.

8. Claims 7-10, 17-20, 29-30 are allowed.

Regarding claims 7-9 and 17-20, claim is allowed over the prior art of record because the cited references taken individually or in combination fail to particularly disclose a multiband data communication apparatus comprising "storage means for saving thereinto discrete data of a frequency pattern component functioning as a base" and "address generating means for generating an address every pre-selected clock" and "first analog converting means for analog converting data which is read out by addressing said storage means based on the address outputted from said address generating means..." and "second analog converting means for analog converting data which is read out by addressing said storage means based on the output of said phase shift means...". The closest prior art, Ito et al. (US 5,852,784) disclosing multiband mobile unit communication apparatus, either singularly or in combination, fail to anticipate or render the above underlined limitations obvious.

9. Claim 11 is allowed.

Regarding claim 11, claim is allowed over the prior art of record after Applicant adds the critical limitation "providing said band switching signal to a means for shifting a phase of controlling said means for shifting a phase" and "using said means for shifting a phase for". The closest prior art, Ito et al. (US 5,852,784) disclosing multiband mobile

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unit communication apparatus, either singularly or in combination, fail to anticipate or render the above underlined limitations obvious.

10. Claim 21 is allowed over prior art.

Regarding claim 21, claim is allowed over the prior art of record because the cited references taken individually or in combination fail to particularly disclose a multiband data communication apparatus comprising "phase shifting means for shifting a phase of said local oscillation signal for input to one of said pair of first quadrature mixers" and "means for optionally changing a phase of said local oscillation signal for input to another of said pair of first quadrature mixers based upon said band switching signal to thereby ensure correct polarities of quadrature components". The closes prior art, Ito et al. (US 5,852,784) disclosing multiband mobile unit communication apparatus, either singularly or in combination, fail to anticipate or render the above underlined limitations obvious.

11. Claim 22 is allowed.

Regarding claim 22, claim is allowed over the prior art of record after Applicant adds the critical limitation "phase shifting means for inputting said band switching signal for shifting a phase of said local oscillation signal to ensure consistent polarities of quadrature components of said reception baseband signal irrespective of an operating band of the apparatus". The closes prior art, Ito et al. (US 5,852,784) disclosing

multiband mobile unit communication apparatus, either singularly or in combination, fail to anticipate or render the above underlined limitations obvious.

Conclusion

12. THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Khanh Tran whose telephone number is 571-272-3007. The examiner can normally be reached on Monday - Friday from 08:00 AM - 05:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammad Ghayour can be reached on 571-272-3021. The fax phone

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number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

KCT

TESFALDET BOSEURE
PRIMARY EXAMINER